# Rural Subdivision

Photo courtesy of WGFD

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## Background

Wyoming is internationally known for its scenic beauty, abundant wildlife, numerous recreational opportunities, and friendly small-town atmosphere. These qualities are increasingly desirable to telecommuters and retiring baby boomers alike, and to both state residents and non-residents seeking rural lifestyles.

Trends in housing development patterns reflect these desires. Lot sizes are increasing, as is development outside of incorporated city boundaries. Rural development on exurban lots (i.e., land that is beyond suburban development) and rural lots (1.7 to 40 acres) has been growing at a rate of 10–15 % per year, exceeding urban and suburban expansion rates (U.S. Department of Agriculture 2006).[1]

By 2100, the population of the United States is expected to nearly double to 571 million (Hulme et al. 2009). Wyoming has had a steady, positive growth rate for the past few decades. Its population growth rate over the 10-year period from 1990 to 2000 was 8.9% (Lieske and Taylor 2002), and from 2000 to 2009 was estimated to be 10.2% (U.S. Census Bureau 2010). For the 12-month period ending July 1 2009, it had the nation's fastest population growth rate, at 2.12%, bringing the state's population to a total of 544,270 people (US Census Bureau 2009).

The majority of rural subdivision and development in Wyoming is occurring on privately owned ranchlands. Forty-three percent of Wyoming is privately owned land, of which 93% is in agricultural production (Taylor 2003).[2] Cropland in Wyoming is limited, due to a relatively arid climate, and most agricultural lands are large tracts of rangelands used for grazing. The average size of farms or ranches in Wyoming is over 3,600 acres, with more than 80% operating on 5,000 acres or more (U.S. Department of Agriculture 2004).

Wyoming receives many benefits from population growth and development, which are important components of the state's present and future economic prosperity. Enjoying wide open spaces and living close to nature are attributes that define Wyoming and the character of its people. However, the location, design, and rapid rate of rural subdivision and development in some areas can have negative consequences for wildlife and wildlife habitat.

Privately owned ranchlands in Wyoming contain disproportionately high amounts of crucial wildlife habitat. Historically, ranches were established along valleys and waterways. These lands are not only the most agriculturally fertile, but also the most biologically productive and diverse. While Wyoming contains a significant amount of public land, many wildlife species, including big game, tend to inhabit or migrate through public lands during the summer and fall and spend the winter at lower elevations on private lands.

Today, private ranchlands provide crucial winter range, travel corridors, and birthing sites for many of Wyoming's wildlife species. Fifty percent of the winter habitat for Wyoming's major big game species is located on private land (Coupal et al. 2004). Additionally, more than 80% of wildlife in Wyoming relies on riparian zones (McKinstry et al., 2002), which are frequently located on private agricultural lands.

Rural development and subdivision can reduce both the quantity and quality of wildlife habitat.

[1] Many of the statistics and background information for this section are taken from the University of Wyoming William D. Ruckelshaus Institute of Environment and Natural Resources publication *Wyoming's State of the Space: A Comprehensive Review of Land Use Trends in Wyoming.* For a copy of this publication or more information on strategies to address rural subdivision and development, visit: http://www.uwyo.edu/enr/.

[2] Fifty-four percent of Wyoming is public land that is managed by either the state or federal government. Tribal lands represent just over 3% (Hulme et al. 2009).

The amount of wildlife habitat is reduced as natural vegetation is replaced by homes, roads, out-buildings, and other infrastructure. As barriers to wildlife movement, such as roads and fences, increase, habitat quality may decline. Invasive species spread, and animals avoid areas with greater human and pet activity. Additionally, water quality may decline from increasing sedimentation levels and contamination from pesticides, herbicides, fertilizers, and other chemicals found in runoff from nearby roads and lawns. Urban sprawl is the second leading causes of decline of federally listed threatened and endangered species (Mealor 2007).

## Scope and Challenges of Rural Subdivision and Development and Wildlife Conservation

Wyoming's growth in the last 15 years has primarily fit into the "rural" category, with much of rural housing having a density of one unit per 35 to 40 acres (Hulme et al. 2009). Locations that offer many natural amenities such as scenic views, outdoor recreational opportunities, and clean air and water tend to attract more residential growth, which has led to a flow of people out of municipalities and into rural areas in some parts of Wyoming. A study by the American Farmland Trust (2002) found that Sublette, Park, Uinta, Big Horn, and Fremont counties were among the top 25 counties in the Rocky Mountain region in terms of the potential for conversion of prime ranchland to residential development.

Wyoming State Engineer's Office records indicate that nearly 100,000 acres of land were subdivided into lots of 35 acres or less between 1998 and 2006. This trend could result in 80% of new developments in Wyoming being on lots of 10 to 40 acres by 2020. This would total 7.1 acres of residential development per new household or 2.9 acres of residential development per new resident (Theobald 2003).

Because of agriculture's predominance on the land base, the fate of much privately owned wildlife habitat in Wyoming is closely tied with the future of the agricultural and livestock industries. Low profit margins from agriculture, the lure of large financial returns from the sale of ranchlands, the increasing number of agricultural producers entering retirement age, and low recruitment of new farmers and ranchers are leading factors contributing to the sale and conversion of ranchlands to residential uses.

After a high in 1993 of almost $200 million, the net proprietor income for agriculture in Wyoming has averaged less than $40 million per year through 2006, and was negative in 2002 (-$16.5 million) and 2006 (-$63.2 million) due to drought (U.S. Department of Commerce 2007). Additionally, the future of federal grazing leases is uncertain, due to competing uses of federal lands, such as energy development and recreation, as well as court challenges over the valuation and environmental impacts of public land grazing. Agricultural operations with federal land grazing permits control 20.4 million acres of private land in Wyoming, or 60% of Wyoming's total private land base (Hulme et al. 2009). Continued access to public land grazing is central to the profitability of most of these agricultural operations.

The price of agricultural land in Wyoming continues to rise and is driven in part by an increasing demand for natural and outdoor recreational amenities. The average price of a ranch in Wyoming increased by more than three times on a production-unit basis from 1993 to1995 and again from 2002 to 2004, and the average price for irrigated meadowland in Wyoming has nearly doubled (Taylor 2003).

Currently, about 8.7 million acres of agricultural land in Wyoming are managed by operators aged 65 and older (Hulme et al. 2009). One study found that the percentage of Wyoming agricultural operators of 65 and older had more than doubled between 1959 to 2002, from less than 12% in 1964 to nearly 26% in 1997, while the percentage of Wyoming agricultural

operators under 35 years of age had declined by two-thirds, from more than 15% in 1982 to less than 5% in 2002 (Foulke et al. 2000). The future of ranchlands held by retiring agricultural producers remains uncertain.

Accordingly, State of Wyoming Board of Equalization records indicate there was a 600,000-acre decrease in the amount of land classified as agricultural between 2003 and 2006. This is an area similar in size to the state of Rhode Island (Hulme et al. 2009). A study from the American Farmland Trust (2002) predicts that up to 2.6 million acres of Wyoming's most productive ranchlands are at risk of conversion to residential development by 2020.

In addition to the reduction of habitat quantity and quality, subdivision and rural development have other impacts on the state's ability to effectively manage and conserve wildlife. Human wildlife conflicts frequently increase in areas with high rural development. Deer in particular can damage lawn and garden plants, and high densities often lead to increased road collisions. Bears, skunks, raccoons, and other unwelcome wildlife visitors are often attracted to human food and garbage.

Controlling wildlife numbers through hunter harvest often becomes more difficult as the land becomes fragmented and many properties are too small or do not allow hunting. Revenue for state wildlife agencies can decline as hunting license sales diminish. Excessively large big game herds can over-utilize their habitat, decreasing its quality for other wildlife species and increasing damage to nearby agricultural crops. Additionally, some historic habitat management techniques needed to sustain native plant communities, such as periodic fire, are no longer feasible with rising safety and liability concerns as a result of growing numbers of people and structures. Water conflicts may also become more common as demand for water resources increases. Population growth heightens the need for water storage and diversion structures which can be detrimental to the movement of some aquatic species and the continuation of natural flow regimes required to sustain native riparian vegetation and aquatic communities.

## Current Initiatives Related to Addressing Rural Subdivision and Development

The proliferation of rural subdivisions has become an issue in Wyoming relatively recently, especially when compared to other regions of the United States. This may be partly explained by Wyoming's small population and a population growth rate that has lagged behind other western states. Most efforts to mitigate the negative impacts of accelerated rural subdivision and development fall into five categories:

- increasing the profitability of land uses that maintain wildlife habitats
- enhancing the effectiveness of land planning
- improving the design of rural developments
- working directly with landowners to conserve land through voluntary land purchases and land use agreements
- increasing public and landowner awareness about rural land management issues including wildlife needs

### Increasing the Economic Viability and Profitability of Land Uses that Maintain Open Spaces

The Sonoran Institute's booklet Preserving Working Ranches in the West features methods and examples of ways ranchers have diversified their agricultural operations to increase profitability and retain the natural values of their land. Copies of the booklet can be obtained and training courses scheduled by contacting the Wyoming office of the Sonoran Institute, Partnership for Wyoming's Future (see Additional Resources). The Sonoran Institute also offers a one-day training seminar on this subject geared for agricultural producers.

The Wyoming Business Council's Agribusiness Division has a variety of programs that assist farmers and ranchers with strategies to increase profits and provide added value to their businesses. The Business Council works one-on-one with farmers and ranchers to identify new marketing opportunities, develop agricultural diversification strategies, and enhance their business and marketing skills. The Business Council also has a workbook available for agricultural producers interested in assessing their current operations to better utilize their existing resources to sustain their operation.

Some ranchers have established side businesses related to hunting/fishing outfitting, eco-tourism, and dude ranching to bring in extra income. More recently wind development is being explored as a means to add to the profitability of some agricultural operations, but this type of renewable energy development may also alter wildlife habitat and impact hunting access.

**Enhancing the Effectiveness of Land Planning**

Wyoming law requires that both municipal and county governments develop a comprehensive land use plan (Hulme et al. 2009). Unincorporated cities or towns may develop a land use plan, but are not obligated to do so. Local entities responsible for land use decision-making include county commissioners, planning and zoning commissions (city and county), and municipalities.

There have been a number of efforts in Wyoming to increase the knowledge levels of county commissioners, town councils, and planning/zoning commission members about land planning issues and techniques. The Sonoran Institute, Wyoming Association of County Commissioners, and Wyoming Planning Association all provide workshops on topics related to rural development including methods of minimizing negative environmental impacts and potential land use conflicts.

The Wyoming Rural Development Council *Community Assessment* program supports the creation of locally-driven development strategies and provides long-term support in helping to achieve community development goals. The Council has facilitated community assessments in almost 80 towns and cities and is now expanding the program to the county level. Similarly, the *Building the Wyoming We Want initiative* (BW3), a nonprofit organization that originated from a governor-sponsored 2008 conference, intends to provide process and resource assistance for local efforts to plan for growth while retaining residents' core values of open spaces, ability to recreate in the great outdoors, and safe, friendly communities for their children and grandchildren. Currently, the BW3 High Plains Initiative is conducting a pilot project that includes Platte and Goshen counties. The goal of the initiative is to explore growth-related issues and future planning options based on community vision, involvement, and a formal values study. Cheyenne, with its *PlanCheyenne*, along with Teton and Sheridan counties are examples of counties and municipalities that have developed comprehensive land use plans that included considerable public involvement and take into account wildlife habitat conservation issues.

Until recently, Wyoming counties did not have authority to review the subdivision of land where parcel size was 35 acres or more. Counties were able to use zoning, however, to regulate the minimum parcel size to exceed 35 acres if desired. This lack of subdivision review encouraged the creation of very large tracts without public comment or governmental oversight. In 2008, the Wyoming legislature passed legislation allowing counties, through resolution, to regulate subdivisions between 35 and 140 acres (Wyoming Statute § 18-5-316/7, et seq. 2008). The legislation included exemptions for parcels existing prior to July 1, 2008, and for the division of up to 10 parcels of 35 or more acres to be created without undergoing subdivision regulation review (Wyoming Statute § 18-5-316/7, et seq. 2008).

**Improving the Design of Rural Developments**

The concept of conservation or cluster development is to minimize negative impacts to the environment and maximize residents' enjoyment and use of the natural amenities of the land. This type of development is often approached by increasing housing densities and allowing common open space to be shared by all residents of the subdivision. Developers can benefit by selling more lots clustered on a portion of the development as compared to selling a smaller number of large parcels. As long as cluster developments are not located too far from town and city service centers, they can potentially lower the net costs of service and save money for local governments. Generally speaking, it is cheaper to provide services to houses located in a confined area as compared to residences that are scattered across the landscape.

In 2009, the Wyoming Legislature passed HB0009 to provide incentives for conservation design and cluster development in rural areas. Incentives allow an exemption for subdivision application requirements for housing developments that use density bonuses to preserve open space. Preserved lands should contribute to the protection of wildlife habitat or the enhancement and maintenance of the rural character of land that is contiguous to agricultural lands. To qualify, two-thirds of the total area of the parcel being divided must be retained in open space and remain under this designation for at least 65 years. After 65 years, there must be a process by which the owners of the lots in the development can renew the designation. Each board of county commissioners has authority to allow this exemption.

**Voluntary Land Purchases and Land Use Agreements**

Conservation easements are voluntary agreements that limit the amount and type of development that can occur on a property with the purpose of maintaining its natural open space value, wildlife and habitat value, or productive features (e.g., agricultural uses). Most conservation easements are placed on the land title in perpetuity. This means the development restrictions run with the land regardless of landownership. Landowners typically receive tax incentives and/or direct payments for entering into a conservation easement. In 2007, an estimated 389,000 acres of land across Wyoming was under conservation easement agreement, or approximately 1.45% of the privately owned land in Wyoming. In 2005, Wyoming ranked third of northwestern states in land area in conservation easements (Hulme et al. 2009).

Conservation easements have become the predominant method of land conservation in the West because they are voluntary and incentive-based, they retain land in private ownership and on local tax rolls, and they do not require future upkeep costs since land management responsibilities are typically retained by the landowner. Land trusts are organizations that typically hold and monitor conservation easements. Land trusts may be either government or non-profit organizations. Some of the more active organizations in Wyoming that hold conservation easements are: Ducks Unlimited, Wyoming Land Trust, Jackson Hole Land Trust, National Wild Turkey Foundation, Rocky Mountain Elk Foundation, Sheridan County Land Trust, The Nature Conservancy, The Conservation Fund, Wyoming Game and Fish Commission, and the Wyoming Stock Growers Agricultural Land Trust.

In recent years, the use of conservation easements has been further incentivized by increased federal tax incentives[3] and new state

[3] Federal tax incentives for conservation easements were increased in 2006. New incentives raise the maximum deduction a donor can take for donating a conservation easement from 30% of their adjusted gross income (AGI) in any year to 50%; allow qualified farmers and ranchers to deduct up to 100% of their AGI; and increase the number of years over which a donor can take deductions from 6 to 16 years. If not renewed or made permanent, increased tax incentives will expire at the end of 2009. As of July 2010, House and Senate have both passed one-year extension, but changes elsewhere in the bill will require additional action by the House. If passed, the extension would last through

funding sources. The Wyoming Wildlife and Natural Resource Trust was established by the Wyoming Legislature in 2005 with the purpose of enhancing and conserving wildlife habitat and natural resource values throughout the state. Annual interest from this account is available for habitat improvement projects including conservation easements. The corpus of the account in July 2010 was approximately $91 million (Budd, personal communication, July 2010). Funds established to enhance planning and offsite mitigation for energy development have also been used to purchase conservation easements. Examples include the Jonah Interagency Office, Pinedale Anticline, and Wyoming Land Conservation Initiative.

In Wyoming, land purchases to conserve wildlife habitat have been limited due to expense and political opposition to reductions in the private land base. Land purchases may have the added wildlife management benefit of allowing public access, which while possible with conservation easements, is typically not part of the terms of easement agreements.

**Increasing Public and Private Landowner Awareness**

There are several initiatives within Wyoming designed to inform policy-makers, landowners, developers, and the general public about rural subdivision issues and habitat conservation options. One of the most notable is the University of Wyoming's William D. Ruckelshaus Institute of Environment and Natural Resources' (Ruckelshaus Institute) *Open Space Initiative*. Established in 1993, the Ruckelshaus Institute has conducted research, disseminated information, and facilitated public dialogue on a number of topics associated with land-use change and the impacts of that change within Wyoming. Some of the topics addressed through the *Open Spaces Initiative* include: public opinion on land conservation and open space, private land and big game habitat, residential development and the cost of community services, conservation easements, population growth and land use trends, and big game migration corridors (see Additional Resources for Open Space Initiative publications).

The Sonoran Institute is currently conducting surveys of county and community land use planners, county commissioners, mayors, town councils, and planning and zoning commission members to encourage a dialogue about regulatory changes that would make growth planning more effective, to create incentives for developments that conserve natural areas, and to identify future educational needs.

Lastly, the University of Wyoming's Cooperative Extension Services program *Barnyards & Backyards: Rural Living in Wyoming* focuses on providing information to small acreage landowners, new landowners, or backyard enthusiasts on rural landownership issues including pasture management, wildlife habitat, and invasive species.

Federal land management agencies have also taken steps to educate and train agency personnel to work more effectively with local land planners and private landowners in order to conserve the quality of lands that are adjacent to publicly managed lands and help promote conscientious development. Privately held land that is within public land boundaries (i.e., private inholdings) and land that borders national parks and national forests are at high risk for development due to their desirable locations. Additionally, these publicly managed lands, many of which provide essential habitat for Wyoming's wildlife, are also vulnerable to human-caused disturbances such as predation by domestic pets and invasive species used in residential landscaping. The Sonoran Institute has collaborated with the Bureau of Land Management to develop the *Desktop Reference Guide to Collaborative Community Based Planning* (2000), and has worked with the National Park Service in hosting workshops to discuss the strategies, goals, and successes of community partnerships. More recently, the U.S. Forest Service has worked with the Ruckelshaus Institute to develop a toolkit for Wyoming's

December 31, 2010 and be retroactive to the beginning of the year.

public land managers that compiles information on many of the technical and financial resources that are available for the conservation of private land. The goal of the toolkit is to aid Wyoming's public land managers in becoming more involved in local land planning efforts.

## Current Challenges to Conserving Private Wildlife Habitat and Mitigating the Potential Negative Impacts of Rural Subdivision and Development

**Growth planning and land conservation efforts can be contentious.**
Individual freedom and avoidance of excessive government intrusion are strongly held values in Wyoming. Many mechanisms to address growth planning limit future land uses, resulting in an inherent tension between balancing the protection of individual and private property rights with providing public benefits. The controversial nature of growth-planning issues often causes public officials to be reluctant to address them.

**Uncertainty about the future profitability of agriculture, access to federal grazing leases, and land use regulations can make farmers and ranchers unwilling to enter into agreements which place long-term development restrictions upon their land.**
While many landowners have a desire to retain wildlife habitat on their land and continue to farm or ranch, uncertainty about the future economic viability of agriculture may cause some to be reluctant to enter into conservation agreements in perpetuity or support land use planning which would prevent them from selling their land for alternative land uses.

**Wyoming's large public land base may decrease the perception that conservation of wildlife habitat is necessary.**
Fifty-four percent of Wyoming's land is owned by either the state or the federal government (Hulme et al. 2009). Much of this land has some level of protection against future subdivision and housing development. However, relying solely on public land to provide habitat for Wyoming's wildlife discounts the disproportionate amount of crucial habitat, especially winter range, birthing sites, and migration corridors located on private land. Some habitat types, including lowland riparian areas and shortgrass prairie, are predominately found on private land in Wyoming.

**There is a need for a greater number and diversity of tools available for landowners to retain wildlife habitat.**
Many landowners, particularly those who rely on agriculture for their livelihood, do not have the earnings to take advantage of income tax incentives for entering into conservation easements. The number and type of incentives for entering into land conservation agreements should be expanded and include incentives supporting sustainable land uses which maintain open spaces in addition to land use restrictions.

**For subdivisions outside of municipal boundaries, fewer administrative hurdles exist and development is typically cheaper.**
Rural development is currently encouraged because it is often cheaper and less administratively burdensome than developments inside incorporated municipal boundaries. Connecting to municipal infrastructure such as water, sewer, and electricity can add to development costs. Wyoming statutes make it easy to develop rural areas since few counties have chosen to opt for review and permitting of parcels which are 35 acres or larger. Additionally, relatively few county building codes and development standards may reduce costs of rural developments. Current difficulties with municipal annexation have been identified as discouraging developments within city and town limits in favor of rural subdivision. Also, sales tax revenue is often allocated between counties and cities based on the number of residences. This has led to a perception among some counties that large numbers of residents will enhance county revenue; although costs for

providing services to rural residents may exceed financial gains.

**Landowners, developers, and local governments need to be provided with more options for growth planning supported by examples based in Wyoming.**
Many people involved with land use decisions and designing developments are unaware of the options to address growth planning and habitat conservation. Additionally, although a diversity of techniques have been used throughout the country, Wyoming examples are lacking.

**Raise awareness about the potential benefits of planning for growth and habitat conservation.**
Growth control and land conservation efforts often encounter the belief that all growth is beneficial and development limitations are generally disadvantageous. Effective wildlife habitat conservation efforts can support traditional land uses and local economies through activities such as agriculture, tourism, hunting, and angling. Conserved properties can increase property values, save tax dollars, and retain community features most valued by residents and sought-after by businesses. A study conducted in Wyoming in 2001 found that to provide community services such as trash collection, emergency services, and road maintenance, it costs a statewide average of 54 cents in expenditures per dollar of tax revenue collected for lands under agricultural production, compared to $1.13 for rural residential lands (Coupal et al. 2002).

**Limited coordinated, statewide Geographic Information System (GIS) mapping capacity.**
Currently, Wyoming lacks statewide tracking of subdivisions and rural residential developments to quantify land use changes and guide habitat conservation planning. Some counties in Wyoming have GIS departments and websites, but coordination among all 23 counties is limited and data is not uniformly available. GIS maps for wildlife and crucial habitats often lack specificity and are limited in the number and diversity of wildlife species incorporated.

**Difficulty of land conservation and growth planning efforts keeping pace with development rates.**
Limited staff for municipal and county land planners as well as for land trusts can make it difficult for the development review process and habitat conservation efforts to keep pace with high rates of rural subdivisions.

## Recommended Conservation Actions

**Increase funding for habitat conservation projects.**
Organizations that conserve private wildlife habitat frequently have more interest from landowners than project funding will support. It is particularly difficult for many of Wyoming's land trusts to achieve the matching funding required to access state and federal conservation dollars, which are available through sources such as the Wyoming Wildlife and Natural Resource Trust Fund and the U.S. Department of Agriculture's Grassland Reserve and Farm and Ranchland Protection Programs. Mechanisms that other states have used to increase funding for land conservation include lodging and recreational user fees, bonding initiatives, state lottery funds, and a real estate transfer tax, which applies when land is sold and changes from an agricultural use to another use. Energy development mitigation money should continue to be available for habitat conservation projects. It is recommended that the Wyoming Wildlife and Natural Resource Trust be fully funded to its $200 million limit during the next five years.

**Wildlife habitat conservation efforts should be linked to maintaining ranching and other sustainable land uses.**
The majority of privately-owned, crucial wildlife habitat in Wyoming is found on working ranches. Polls have shown that the loss of working family farms and ranches is the number one conservation concern for Wyoming voters (Hulme et al. 2009). Linking habitat

conservation efforts to retaining agricultural operations may increase landowner involvement and public support.

Because the value of ranchland for development vastly exceeds the land's agricultural productive value, efforts that enhance the economic viability of agricultural operations may diminish incentives for ranchers to sell their land for alternative uses. Such initiatives may be popular with landowners and are not constrained by government budgets if they are linked to free markets. Examples of efforts that have been used to increase and diversify financial returns from agriculture include direct marketing, niche marketing, food cooperatives, and new product development. Many landowners have also established businesses that capitalize on the natural amenities of their land including outfitting for wildlife viewing, hunting, and fishing.

Similarly, increased regulation may also discourage landowners from remaining in agriculture. Continued access to grazing leases on federal land is central to the economic sustainability of many Wyoming ranching operations.

**Future monitoring and stewardship expenses should be eligible for habitat conservation grant funding.**
Wyoming land trusts are acquiring an ever-increasing number of conservation easements. Money to monitor and enforce conservation easements is a growing percentage of a land trust's operating budget. Most conservation easements are perpetual agreements. Research has shown that conservation easement violations typically occur after the land transfers from the original landowner who entered into the conservation easement agreement to a new owner (Danskin 2000). A portion of grants for habitat conservation projects should be eligible for long-term conservation easement stewardship expenses.

**A resource portal of wildlife-friendly planning options should be created for landowners, developers, and land use planners.**
A web-mediated resource guide of wildlife-friendly development and land planning tools should be created and hosted in an easily accessible location. The Building the Wyoming We Want initiative has a stated goal of creating such a resource portal. Emphasis should be placed on developing more Wyoming examples that highlight the successful use of various options. Research should be conducted to determine the financial and conservation value of less-than-perpetual conservation leases. The resource portal should include best management practices for land use, should be regularly updated and managed by the appropriate agency or organization, and should provide a resource section where readers can access additional related information.

**Enhanced coordination, consistency, and accessibility of GIS mapping efforts should be a state priority.**
Mapping information regarding the size and location of rural subdivisions and crucial wildlife habitat in Wyoming is often incomplete and not compatible between sources. Similarly, even for state agencies, requirements for mapping data storage at a central location is lacking.
Currently, Species of Greatest Conservation Need (SGCN) monitoring and inventory work is scattered among agencies, consultants, conservation organizations, and natural resource industries. Among other benefits, compiling data would help to identify data gaps.
Land use planners and developers would also benefit from more information on the locations of crucial wildlife habitat. Enhanced GIS capabilities would enable more investigation into the relationships among various types of land use. For example, the cumulative wildlife impacts from energy and housing development could be better understood and perhaps minimized. There should be particular emphasis on developing GIS mapping to quantify the amount, location, and rate of rural subdivision in the state for both public awareness and planning purposes.

GIS mapping information should be made more accessible and spatially consistent. This could include maintaining information on a centralized website, as well as enhancing GIS training for planners, county commissioners, and planning and zoning boards. GIS data should be accessible to the general public. Some private landowners may be reluctant to reveal the locations of sensitive species and habitats on their property because of the fear of being the target of future regulations, which could result in the loss of land values and land uses. To reduce these concerns, investigations should be made into methods of providing safe-guards for future access and use of this information.

**Increase awareness about the potential negative impacts of wildlife habitat fragmentation and the benefits of habitat conservation and growth planning.**
Rural development and subdivision can reduce both the quantity and quality of wildlife habitat. Some impacts such as the spread of invasive species, increased wildlife conflicts including vehicle collisions and damage to crops and landscaping, and decreasing water quality may not be anticipated or well understood by those designing and reviewing rural subdivision plans.

Accordingly, knowledge levels should be improved about the benefits and relationship between wildlife habitat conservation and maintaining agriculture and other traditional land uses, attracting businesses, preserving clean air and water, providing outdoor recreational opportunities, and reducing the cost of providing community services. Proactive, incentive-based habitat conservation efforts can be effective in reducing the need for future listing of species under the Endangered Species Act.

Training workshops on habitat conservation and rural development issues should be enhanced and made available to larger audiences. Important stakeholder groups include landowners, developers, realtors, businesses, county and community land-use planners, county commissioners, mayors, town councils, planning and zoning commission members, and the general public. The Wyoming County Commissioners Association, The Sonoran Institute, University of Wyoming Department of Agriculture Cooperative Extension Service, and Wyoming Planning Association currently offer training and facilitation on development issues and growth planning. Plan-IT Wyoming (www.planitwyoming.org), a partnership between the Ruckelshaus Institute, University of Wyoming GIS Center, and the Wyoming Rural Development Council, can offer training in planning technology tools. Educational material should also be made available through websites and informational CDs.

**A common terminology for discussing growth planning and land conservation issues should be developed.**
For some, terms like "open space" can conjure images of beautiful vistas of natural areas and pastoral scenes; for others "open space" may mean urban greenways or even shopping center parking lots. Similarly, terms such as "conservation easements," "land use planning," and "zoning" carry with them considerable historically negative stigma and may elicit strong emotional reactions. Effort should be made to develop terms or clarify existing terms to discuss growth planning and habitat conservation issues that are broadly understood and facilitate discussions about both opportunities and limitations of various conservation options.

**Clearly identify wildlife habitat priority areas.**
Habitat priority areas, including wildlife corridors, need to be clearly identified in order to be effectively incorporated into development design and growth planning efforts. SWAP SGCN priority areas identified in the Habitat Section of this State Wildlife Action Plan should assist in achieving this objective. It is important to address all species, including SGCN and big game animals. Greater incentives and assurance should be provided to landowners who voluntarily participate in habitat GIS mapping

projects that data will not be used in future regulatory actions. Attention should be given to creating policies and programs that encourage landowners to view designation of their land as a wildlife priority area as an opportunity rather than a potential threat to its traditional uses.

**Improve the knowledge of first-time landowners about wildlife and rural living issues and increase efforts to mitigate the negative impacts of rural subdivisions.**
Many rural subdivisions exist in Wyoming and many more will be developed in the future. Programs that increase first-time landowners' knowledge of wildlife and rural living issues, such as Barnyards & Backyards: Rural Living in Wyoming headed by the University of Wyoming's Cooperative Extension Services, should be continued and expanded. Additionally, there are numerous opportunities including landscaping choices, grazing practices, pesticide use, and garbage storage to mitigate the negative wildlife impacts of rural subdivisions and even increase habitat quality. More attention can be placed on wildlife-friendly fencing. The Wyoming Game and Fish Department has a publication on wildlife-friendly fencing (http://gfi.state.wy.us/Wildlife/References/Fencing/WildlifeFence-MTPublication.pdf). WGFD also supports the Wyoming Land Trust's Corridor Conservation Campaign, which focuses on minimizing barriers to big-game movement in Sublette County, including installing wildlife-friendly fencing at no cost to landowners. Federal, state, and private landowner fence-design often lacks consistency. Landowners have the option to specify what type of fencing they prefer along Wyoming Department of Transportation rights-of-way. The state should assume a leadership role in providing examples of wildlife-friendly fencing for state projects.

## Evaluating/monitoring Success

**A centralized GIS database should be established to track rural subdivision and land conservation efforts in Wyoming.**
Many Wyoming counties do not have the ability to electronically map subdivisions, so that rural subdivisions are not being mapped on a statewide basis. Establishing a statewide electronic database of rural subdivisions would help to guide future development and conservation efforts to minimize impacts to important wildlife habitats. This database would also be helpful in evaluating the cumulative impacts of rural subdivisions in relation to other habitat threats such as energy development or invasive species, assuming that these threats are also mapped. The location of conserved properties, including lands upon which conservation easements or management agreements exist, should also be tracked to assist in planning. This information could be used in evaluating success in reaching habitat conservation targets.

**The availability of funding and technical information resources for addressing rural subdivision and development should be monitored and made accessible to land conservation organizations, private landowners, local governments, and developers.**
There are diverse funding and technical information resources for completing land conservation projects and enhancing development planning. Keeping updated on all resources can be difficult. Increasing land values and fluctuating fund availability will likely require increased resources for completing habitat conservation projects in the future. The *Building the Wyoming We Want* website http://www.buildingwyoming.org/ may serve as an appropriate location for this information.

## The following individuals reviewed or contributed information to the Rural Subdivision and Development section of the SWAP:

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## Additional Resources

Building the Wyoming We Want
P.O. Box 634
Casper, WY 82602
www.buildingwyoming.org

Ducks Unlimited
Colorado/Wyoming Program
2926 East Mulberry Street
Fort Collins, CO 80524
Phone: (970) 221-9861
www.ducks.org

Jackson Hole Land Trust
P.O. Box 2897
555 East Broadway, Suite 228
Jackson, WY 83001
Phone (307) 733-4707
http://jhlandtrust.org/

National Turkey Foundation
1376 Harding Road
Burns, WY
Phone: (307) 547-3556
www.nwtf.org

Rocky Mountain Elk Foundation
*Southern Wyoming*
1291 Jones Road
Thermopolis, WY 82443
Phone: (307) 867-2613

Northern Wyoming
53 Albright Drive
Buffalo, WY 82834
Phone: (307) 684-5285
http://www.rmef.org/Conservation/WhereWeWork/Wyoming/

Sheridan County Land Trust
P. O. Box 7185
Sheridan, WY 82801
Phone: (307) 673-4702
www.sheridanclt.org

The Sonoran Institute
Partnership for Wyoming's Future
P.O. Box 20665
Cheyenne, WY 82003
Phone: (307) 635-1973
http://www.sonoraninstitute.org/

The Conservation Fund
P.O. Box 4441
Jackson, Wyoming 83001
Phone: (307) 733-2360
www.conservationfund.org/mountainwest/wyoming

The Nature Conservancy in Wyoming
258 Main Street, Suite 200
Lander, WY 82520
Phone: (307) 332-2971
Fax: (307) 332-2974
www.nature.org/wherewework/northamerica/states/Wyoming

University of Wyoming William D. Ruckelshaus Institute of Environment and Natural Resources
Dept. 3971
1000 East University Avenue
Laramie, WY 82071
Phone: (307) 766-5080
Email: ienr@uwyo.edu
http://www.uwyo.edu/enr/ienr/

University of Wyoming Cooperative Extension Services
Dept 3354
100 East University Avenue
Laramie, WY 82071
Phone: (307) 766-5124
http://ces.uwyo.edu

Wyoming Assoc. of County Commissioners
P.O. Box 86
409 West 24th Street
Cheyenne, WY 82003
Phone: (307) 632-5409
www.wyo-wcca.org

Wyoming Business Council – Agribusiness
214 Wes15th Street
Cheyenne, WY 82002
Phone: (307) 777-6589
www.wyomingbusiness.org

Wyoming Game and Fish Department – Lands Division
5400 Bishop Boulevard
Phone: (307) 777-4653
http://gf.state.wy.us

Wyoming Open Spaces Initiative
Dept. 3971
1000 East University Avenue
University of Wyoming
Laramie, WY 82071
Phone: (307) 766-5080
http://www.uwyo.edu/openspaces/index.htm

Wyoming Land Trust
P. O. Box 1580
Pinedale, WY 82941
Phone: (307) 367-7007
http://wyominglandtrust.org/

Wyoming Planning Association
1001 Donegal Street
Casper, WY 82609
Phone: (307) 234-9442
www.wyopass.org

Wyoming Rural Development Council
214 West 15th Street,
Cheyenne, WY 82002
Phone: (307) 777-6430
www.wyomingrural.org

Wyoming Stock Growers Land Trust
P.O. Box 206
Cheyenne, WY 82003
Phone: (307) 772-8751
http://www.wsgalt.org/